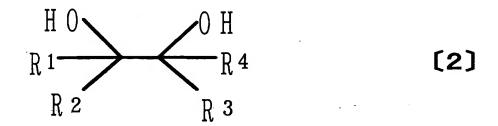
CLAIMS

1. (Amended) A method for producing a 1,2-diol compound represented by the general formula [2]:



wherein R¹, R², R³, and R⁴ independently represent a hydrogen atom, a carboxyl group, a cyano group, a nitro group, a sulfonic acid group, an alkyl group which may have a substituent, a cycloalkyl group which may have a substituent, an aralkyl group which may have a substituent, a heterocyclic group which may have a substituent, an alkoxy group which may have a substituent, an alkoxycarbonyl group which may have a substituent, an acyl group which may have a substituent, an amide group which may have a substituent, a silyl group which may have a substituent, a phosphoryl group which may have a substituent, a sulfinyl group which may have a substituent, a sulfinyl group which may have a substituent, or a sulfonate group which may have a substituent. Any two of R¹, R², R³, and R⁴ may lose a hydrogen atom to be bonded together to form a ring with a carbon atom bonding to them, and any two of R¹, R², R³, and R⁴ may lose a hydrogen atom and be bonded through a divalent atom and/or a divalent functional group to form a ring with a carbon atom bonding to them,

characterized by reacting an olefin compound represented by the general formula [1]:

Amendment Under PCT Article 34

 $R^{1}R^{2}C=CR^{3}R^{4}$ [1]

wherein R¹, R², R³, and R⁴ are as defined above,

with hydrogen peroxide in the presence of a polymer compound having a sulfonic acid group (with the proviso that a silicon oxide-titanium oxide based synthetic zeolite is not used as a catalyst in combination with the polymer compound).

- 2. The method according to claim 1, wherein the hydrogen peroxide is in the form of an aqueous hydrogen peroxide solution.
- 3. The method according to claim 1 or 2, wherein the polymer compound having a sulfonic acid group is a styrene polymer with a side chain comprising a sulfonic acid group.
- 4. The method according to claim 1 or 2, wherein the polymer compound having a sulfonic acid group is a styrene-divinylbenzene copolymer with a side chain comprising a sulfonic acid group.
- 5. The method according to claim 1 or 2, wherein the polymer compound having a sulfonic acid group is a fluorocarbon resin with a side chain comprising a sulfonic acid group.